On the other hand, we see that a bubble being present requires that

$$\lim_{T \to \infty} p_T e^{-[(1-\tau_r)r+\tau_p+(1-\tau_R)\delta](T-t)} > 0.$$

In turn, this requires that the house price is explosive in the sense of ultimately growing at a rate not less than $(1 - \tau_r)r + \tau_p + (1 - \tau_R)\delta$. The candidate for a bubbly path ultimately moving North-East portraied in Fig. 15.9 in fact has this property. Indeed, by (15.56), for such a path we have

$$\dot{p}_t/p_t = [(1-\tau_r)r + (1-\tau_R)\delta + \tau_p] - (1-\tau_R)R(H_t)/p_t \to (1-\tau_r)r + (1-\tau_R)\delta + \tau_p \text{ for } t \to \infty,$$

since $p_t \to \infty$ and $R'(H_t) < 0$.

15.5 Exercises